

REMARKS

In response to the Office Action dated March 8, 2005, Applicants respectfully request reconsideration and withdrawal of the rejections of the claims.

In the Action, the rejections of all claims, based upon the Shih patent and the Neufeld publication, either by themselves or in combination with other references, was maintained. Applicants respectfully submit that the teachings of these references do not lead a person of ordinary skill in the art to the claimed subject matter, for the reasons presented in their previous response.

For instance, one of the arguments presented by Applicants is that the directory tree structure shown in Figures 5 and 11 of the Shih patent does not constitute a graph of atoms that represent the history of a data object. In the most recent Office Action, the Examiner indicated that he does not agree with this argument, because "the atom graph of the Application has the same tree structure of the LDAP structure" of the reference. However, Applicants were not arguing that the *structure* of the directory tree is different from that of the claimed atom graph. Rather, their arguments were directed to the *content* of the elements in the structure. In the atom graph of the claimed invention, each atom represents a different version of the *same* object throughout its revision history. In contrast, the elements in the directory information tree of the Shih patent represent *different* objects or classes of objects. The Office Action does not address this point of distinction presented in Applicants' previous response.

Furthermore, the Neufeld publication does not overcome the differences between the claimed subject matter and the teachings of the Shih patent. The Neufeld publication is primarily relied upon for its disclosure of storing multiple

versions of a file in a memory, which the Office Action characterizes as the history of a data object. As pointed out in Applicants' previous response, the versions that are stored in the memory of the Neufeld publication do not represent the "history" of the data object. Rather, each of the versions only shows the state of the file at discrete threshold points in the life of the file.

In any event, even if these discrete versions could be considered to represent a history of the file, a reasonable application of Neufeld's teachings to the distributed database system of the Shih patent does not lead to the claimed invention. For example, claim 1 recites the step of representing the history of a data object at *each* of multiple devices. If one were to replicate the file stored in the memory of the Neufeld publication among multiple devices, pursuant to the teachings of the Shih patent, there would be no reason to replicate each of the discrete versions that are stored in the memory. Referring to Figure 7C of the Neufeld publication, the current version 716 of the file is designated with an arrow 705. Each of the earlier versions 712 and 714 is marked with a "X" symbol 706 or 708. As stated at the end of paragraph [0029] of the publication, this "X" symbol indicates that these versions are "marked for non-use." That is because these versions are outdated versions of the file, and are only being stored because the read/write capacity of the memory has been exhausted at the locations where they are stored. If a person of ordinary skill in the art desires to replicate the file at multiple devices, there is no incentive to replicate unstable versions of the file that are marked for non-use. Rather, only the current version identified by the arrow 705 would be replicated.

Accordingly, any reasonable combination of the teachings of the Shih patent and the Neufeld publication would not result in a system where the history of a data

object is replicated at each of multiple devices. Rather, only the most current version of the data object would be replicated.

For at least the foregoing reasons, therefore, it is respectfully submitted that the Shih patent and Neufeld publication do not suggest the subject matter of the previously pending claims to a person of ordinary skill in the art. Nevertheless, in an effort to advance prosecution, claims 1, 109 and 114 have been amended to recite an additional feature of the invention that is not suggested by the cited references. These amendments are not being made to overcome the rejections, but rather to facilitate allowance of the application.

A principle application of the present invention is in the field of document collaboration, where multiple users may be making their own revisions to a shared document in parallel. This particular implementation of the invention is recited in new claims 124-126. In contrast, the primary reference, namely the Shih patent, is directed to distributed database systems.

A significant difference between these two applications is the flexibility in the designation of the version of the object that is considered to be the current version. In a database system, the objective is to have all users working with the same set of data. Consequently, only one version of a record can be the current version of that record. This is the reason that database systems employ locks, to prevent more than one user from editing a record at a time. On the other hand, when working on a collaborative document, there is no constraint against different users working on different versions of the document at the same time. For instance, one user may be editing Section 1 of a document, whereas another user is editing Section 2, or

working on the graphics for the document. In this case, it is not necessary that both users be looking at precisely the same version of the document.

Even if both users are editing the same portion of the document, there may be some desirability in having them each be able to continue on their own path with the version in front of them, rather than forcing one of them to wait while the other finishes his or her edits first.

To accommodate this flexibility, the present invention enables different versions of the same object to be viewed at different respective devices, e.g. computers. This feature of the invention is best exemplified in Figures 5a and 5b of the application. The atom graph contains two different versions 30 and 38 of a given document. These versions may conflict with one another, or they may not. At Store A, the user is presented with a view of version 30, Rev2a. However, at Store B, when the user calls up the same document, he is presented with a view of version 38, Rev2b, even though his store contains the same atom graph for the document. The particular view that is presented at each store is designated by a cursor 50.

Claims 1, 109 and 114 recite that the atom graph contains at least one parent atom having at least two direct descendent atoms that represent different versions of the data object. The claims further recite that, at each of the devices, either one of the different versions is selectively designated to be viewed as a representative version of the data object at that device. This aspect of the invention was previously presented in original claim 15, for example. In rejecting claim 15, as well as claims 13 and 14 from which it depends, the Office Action relies upon the Zias patent. In particular, the Office Action refers to the Zias patent at Figure 5, elements 514-522, and column 11, lines 15-26. It is respectfully submitted, however, that neither these

portions of the disclosure, nor any other portions of the Zias patent, teach the concept of displaying different versions of the *same* object at different respective devices. Rather, the teachings of the Zias patent are all directed to operations that occur within in a *single* computer. It does not disclose the concept of storing different versions of a given data object, either in the form of an atom graph or otherwise, and selectively designating either one of the different versions to be viewed as the representative version of that data object at that device, for each of multiple devices. Consequently, it does not suggest the subject matter of claim 15. Nor does it suggest the features of the invention that are now recited in independent claims 1, 109 and 114.

For at least the foregoing reasons, therefore, it is respectfully submitted that the currently pending claims are patentably distinct from the prior art of record. Reconsideration and withdrawal of the rejections, and allowance of all claims are respectfully requested.

Respectfully submitted,

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